



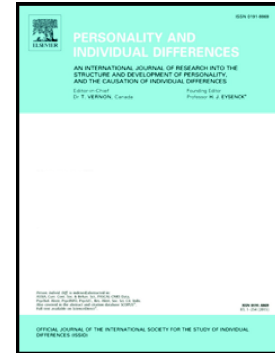
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Keep your (social) distance: Pathogen concerns and social perception in the time of COVID-19

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Keep your (social) distance: Pathogen concerns and social perception in the time of COVID-19

Previous research suggests that individual differences in pathogen disgust sensitivity and social anxiety predict avoidance behavior, especially of pathogen cues, and reduced tolerance for social ambiguity. Conversely, generalized social trust is associated with approach behavior and a greater tolerance for social ambiguity. We conducted an online study ($N = 1078$) to test these predictions in the context of the COVID-19 global pandemic. Specifically, we assessed whether individual differences in pathogen disgust sensitivity, social anxiety and generalized social trust predicted judgments of trustworthiness, desired social distance and perceptions of sickness of target faces wearing surgical masks. Our results showed that (a) high sensitivity to pathogen disgust predicted lower judgments of trustworthiness and lower social desirability; (b) high social anxiety predicted higher perceptions of illness and lower judgments of trustworthiness; and (c) generalized social trust predicted higher judgments of trustworthiness and lower perceptions of illness of target faces. Further, we found that mask wearers were perceived as more likely to be ill, more trustworthy and more socially desirable than the same faces presented to a control group, without the surgical mask superimposed. Results are discussed in terms of perceived compliance with an emerging social norm overriding the intrinsic mistrustfulness of masked faces.

Keywords: coronavirus, COVID-19, disgust sensitivity, pathogen avoidance, social anxiety, social perception, trust

The COVID-19 pandemic has unleashed an unprecedented global crisis, causing large-scale loss of life, economic devastation and social anxiety around the world. Most concerns revolve around the

health threats of contagion and the costs associated with limiting contagion. However, preventing infectious contacts is far from being only a recent challenge: pathogens have been a powerful selection pressure throughout the evolutionary history of our species (Fumagalli et al., 2011). Alongside a reactive physiological immune system to detect and attack pathogens that enter our bodies, natural selection designed a preventive “behavioral immune system” (Schaller & Duncan, 2007) that uses heuristic signals (e.g., anomalous physical and behavioral features) to detect the presence of potential sources of disease, triggering aversive responses that lead to behavioral avoidance. The virtual invisibility of most parasites and the biologically costly consequences of many infections selected for a system that is hypersensitive to anything that superficially resembles disease (Schaller & Park, 2011).

In this behavioral immune system, disgust is argued to play a central function. From an evolutionary perspective, disgust is an information processing system that prevents contact with substances or agents associated with disease: in other words, an affective signal of risk of parasite infection (Curtis, Aunger, & Rabie, 2004; Oaten, Stevenson, & Case, 2009; Rozin & Fallon, 1987; Tybur, Lieberman, Kurzban, & DeScioli, 2013). Given that other people are a common source of disease and that many pathogens are specifically adapted for human-to-human transmission (Aarøe, Osmundsen, & Petersen, 2016), disgust may shape certain aspects of social interactions. For instance, some authors argue that disgust was “co-adapted” during the course of biological and/or cultural evolution to respond to a subclass of abominable moral offenses that reveal bad moral character (those people and behaviors that are morally “sick”; Giner-Sorolla, Kupfer, & Sabo, 2018; Rozin et al., 2008).

Because disgust is a “conservative” emotional response that facilitates general avoidance tendencies (Shook, Thomas, & Ford, 2019), it is expected to influence decision-making. For instance, a recent study found that people preferred less risk in general when the threat of pathogens was high, suggesting that pathogen concerns facilitate a domain-general shift toward cautious decision-making (Prokosch, Gassen, Ackerman, & Hill, 2019; cf. Sparks, Fessler, Chan, Ashokkumar, & Holbrook,

2018). Equally, because the behavioral immune system includes motivational systems for avoiding contact with potential disease vectors, including other humans, disgust may motivate social distancing and distrust. Along these lines, Park (2015) found that individual differences in human-contaminant disgust sensitivity predicted the magnitude of personal distancing. Aarøe, Osmundsen, and Petersen (2016) extended these findings by exploring whether avoidance of people *in general* is an output of the behavioral immune system. In particular, they found that motivations to avoid pathogens affected people's propensity to trust others: "if you tend to worry about pathogens, you will also tend to believe that 'most people' should be avoided" (Aarøe et al., 2016, p. 12). In this article, we therefore investigate whether there are predictable individual differences in judgments of the social desirability and trustworthiness of ambiguously ill target persons (anonymous faces wearing a surgical mask). Specifically, we focus on three types of individual differences—disgust sensitivity, social anxiety and generalized social trust—that have been recognized as relevant for social interactions under pathogen threat.

Disgust sensitivity

Disgust sensitivity varies across individuals, cultures, and possibly geographical regions (Rozin et al., 2008; Schaller & Murray, 2008). This means that, for some people, the experience of disgust is more easily elicited—they find a wider array of stimuli to be disgusting—and may be felt with higher intensity. In order to assess individual differences in trait disgust, various different measures of disgust sensitivity have been applied, such as the Disgust Scale (Haidt, McCauley, & Rozin, 1994) and the Three Domain Disgust Scale (Tybur, Lieberman, & Griskevicius, 2009). For instance, Tybur and colleagues' (2009) scale was based on an adaptationist approach to the heterogeneity of disgust. From these authors' perspective, natural selection has favored the evolution of three functionally specialized disgust domains that operate to solve three qualitatively different adaptive challenges: pathogen avoidance (pathogen disgust), mate choice (sexual disgust), and social interaction (moral disgust). According to their theory, pathogen disgust functions as a first line of defense against objects that are

likely to transmit disease (e.g., rotting foods and bodily fluids) or objects that resemble a source of disease. Sexual disgust evolved as a response to the adaptive problem of avoiding sexual partners and behaviors that would impose net reproductive fitness costs (e.g., avoiding unattractive features in a potential mate, or avoiding one's close kin as mating partners). Finally, moral disgust guards the stability of cooperative relationships and group cohesion, by motivating avoidance of individuals who inflict social costs at the individual or group level.

Previous research has shown that women tend to be more sensitive to disgust than men (Sparks et al., 2018; Tybur, Bryan, Lieberman, Hooper, & Merriman, 2011) and that sensitivity declines with age (Fessler & Navarrete, 2005). A growing body of evidence has connected disgust sensitivity to a broad range of psychological domains, including personality traits, social belief systems, and psychiatric disorders. For instance, a recent meta-analysis found that greater sensitivity to disgust was associated with greater neuroticism and conscientiousness, and with lower openness to experience and extraversion (Oosterhoff, Shook, & Iyer, 2018). Of special relevance for our research is the finding that individual differences in disgust predicted health-related anxiety and behavioral avoidance towards stimuli associated with the common cold, the flu, and mononucleosis (Fan & Olatunji, 2013).

Social anxiety

Some evidence suggests that disgust sensitivity is associated with anxiety disorders that are not directly related to disgusting stimuli, such as social fears (McDonald, Hartman, & Vrana, 2008; Olatunji, Amstrong & Elwood, 2017). Social Anxiety Disorder (SAD) is characterized by a feeling of discomfort, fear or anxiety at the idea of being scrutinized, humiliated, rejected or embarrassed by other people. At the behavioral level, individuals with SAD tend to be avoidant of social interactions such as meeting unfamiliar people, being observed, and performing in front of others (American Psychiatric Association, 2013). Previous studies showed that individuals with SAD may have selective information-processing biases for threat-related information, and that they also tend to interpret ambiguous information as threatening (Kuckertz & Amir, 2014). Furthermore, there are indications that

individuals with SAD are characterized by intolerance of uncertainty (Boelen & Reijntjes, 2009; Lange, Allart, Keijsers, Rinck, & Becker, 2012). For instance, Kuckertz, Strege, and Amir (2017) found that participants with SAD showed less willingness to approach neutral faces relative to disgusting faces, which is compatible with neutral facial expressions inducing social uncertainty regarding another person's feelings or intentions.

Generalized social trust

Generalized social trust refers to a willingness to trust “most people”, including people within an individual's extended social network (“weak social ties”), such as those one meets on the street (Aarøe et al., 2016). Broadly speaking, generalized trust involves taking an optimistic view of social interactions, seeing them as without malice and directed towards shared interests, and feeling that others will avoid deliberately harming us and will look after our interests when it is not too costly for them (Delhey & Newton, 2005). Accordingly, this form of trust promotes approach behavior and social contact with “people in general” (Aarøe et al., 2016), being a different form than trust in familiar individuals (Uslaner, 2002).

Research overview

In this study, we extended past research on the effects of individual differences in pathogen avoidance on social perception, by examining how pathogen avoidance disgust affects willingness to trust and establish social contact with unfamiliar persons wearing a surgical mask. Further, we examined the role that differences in social anxiety and generalized social trust played in these judgments, as well as in participants' intuitive predictions of illness. Additionally, we examined whether participants' judgments differed between two conditions: an experimental condition in which they rated target faces wearing a surgical mask and a control condition in which a different group of participants rated the same target faces without the mask.

We chose to explore participants' judgments of mask-wearers for two reasons. First, we considered that assessing people's social perceptions of strangers wearing surgical masks was highly

relevant in the context of the COVID-19 global pandemic. Second, past research on face perception suggested that wearing a mask might influence social judgments, by impairing the processing of facial information that is crucial for social trust. Indeed, facial expressions carry out an essential communicative function, signaling nonverbal information about the sender's feelings and intentions (Izard, 1994; Todorov, Pakrashi, & Oosterhof, 2009). Thus, difficulties in reading other people's intentions due to their mask-wearing may make them socially ambiguous, and potentially dangerous to interact with (Olivera-La Rosa, 2018; Tinwell, Nabi, & Charlton, 2013).

We hypothesized that:

(H1) Individual differences in disgust sensitivity and social anxiety would be reflected in an increasing behavioral tendency towards avoidance and a reduced tolerance for social ambiguity, favoring that participants with high disgust sensitivity and those with severe social anxiety would rate masked faces to be less trustworthy, less socially desirable and more likely to be ill (relative to participants with low disgust sensitivity or low social anxiety).

(H2) Individual differences in generalized social trust would be related with a behavioral tendency towards approach and greater tolerance for social ambiguity, favoring that participants with high scores in generalized social trust would rate masked target faces to be more trustworthy, more socially desirable and less likely to be ill (relative to participants with low scores in generalized social trust).

Because this research was conducted in the middle of an unprecedented global crisis in which the wearing of surgical masks had gained a lot of media attention, we did not make any specific predictions about differences in participants' judgments by condition (masked vs unmasked conditions). More precisely, we considered it possible that masked faces could be viewed either more negatively than control faces (because of the associations with sickness and ambiguity), or more positively (because of the emerging social norm to protect ourselves and others from infection by wearing a mask).

Method

Participants

We recruited 1078 participants (821 women, mean age = 27.9 years, $SD = 10.3$) via internal email and social networking. Most participants were from Colombia (87.1%), Peru (6.68%), or Spain (4.82%); 1.4% were from other Spanish-speaking countries. We randomly assigned 570 (437 women) participants to the mask condition and 508 (384 women) to the control condition. The task was completed in an average time of 12 minutes. We dropped 24 participants from the analysis because they did not understand the instructions of the task properly. As a result, data analysis was performed on a final sample of 1054 participants.

Materials and procedure

Participants performed the experiment online, using the open-source Psytoolkit software (Stoet, 2017). Before the experiment, all participants confirmed that they agreed to undergo the study, and provided written consent in accordance with ethical procedures approved by [blinded]. They then indicated their age, sex, highest academic qualification, and country of residence.

Next, we assessed individual differences in pathogen disgust sensitivity, social anxiety, and generalized social trust, in random order. As a measure of pathogen avoidance we used the pathogen disgust subscale of the Three-Domain Disgust Scale (Tybur et al., 2009). This subscale is composed of 7 items in which participants indicate on 7-point scales how disgusting they would find a series of situations related with infectious agents (e.g., “accidentally touching a person’s bloody cut”, see Appendix 1). The subscale has good reliability (Tybur et al., 2009), and was used in previous research on pathogen-associated motivations (Aarøe et al., 2016; Park, 2015). As a measure of social anxiety we applied the Liebowitz social anxiety scale (Heimburg & Becker, 2002; Liebowitz, 1987). In this instrument, participants are asked to rate their level of fear and avoidance for 24 social situations (e.g., “drinking with others”, see Appendix 1) on a 0-3 point scale. Finally, as a measure of social trust we chose the widely used Standard International single-item scale (Rosenberg, 1956). Participants are

asked to indicate with a score of 0-10 (0: “you can’t be too careful”; 10: “most people can be trusted”) their answer to the following statement: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?”. Following Aarøe and colleagues’ (2016) suggestion, we also included the 6-item general trust scale (Yamagishi & Yamagishi, 1994) as a second measure of trust. In this measure, participants are asked to indicate how much they agree or disagree with six statements (e.g., “most people are basically honest”; see Appendix 1) by using a 5-point scale from “strongly disagree” to “strongly agree”, higher values indicating higher trust.

Once participants completed the individual measures, they were asked to respond to three explicit measures related to social perception. As targets we selected five faces from the Chicago Face Database (Ma, et al., 2015), with the inclusion criterion that they showed middle ratings on the aesthetic dimension. All faces depicted neutral emotional expressions. For the masked condition, we added a surgical mask to each face using Adobe Photoshop. We used the same faces without masks for the control condition (see Figure 1).

[Insert Figure 1 here.]

Figure 1. Examples of target faces. From left to right, the presented images illustrate an example face in the masked condition (1A) and control condition (1B).

Participants responded to a variation of the social distance scale (Bogardus 1933; adapted by Szczurek et al., 2012), which we translated into Spanish. In this measure, participants indicated the “closest” level of interaction with which they would feel comfortable using a 7-point scale (e.g., “I would feel comfortable if this person were a close friend”); a higher score indicated that more social distance was desired (see Appendix 2). As our dependent variable of trust, we asked participants to indicate the perceived trustworthiness of each target on a 7-point scale (“Based on your initial reaction, how trustworthy does this person seem to you?”). In addition, participants were asked to indicate (with yes/no) the illness or wellness of each face (“Based on your initial reaction, do you think that this person is sick or healthy?”).

Results

Data analysis

Analyses were carried out within the R environment for statistical computing. Participants' responses to the questionnaires and stimuli were analyzed using linear mixed effects models (Snijders & Bosker, 2012). These models account simultaneously for between-subjects and within-subjects effects of the independent variables (Baayen, Davidson, & Bates, 2008). The `mixed()` function of the `afex` package (Singmann, Bolker, Westfall, & Aust, 2016) was used to produce the inferential statistics and *p*-values. The `lsmeans` package (Lenth, 2016) was used to create the predicted means for the fixed effects.

We analyzed three models, one for each of the three questions about the target faces: social distance, trustworthiness, and sickness perception. All models included *Condition* (masked vs. unmasked target), *Sequence* and *Gender* as categorical fixed effects. *Disgust*, *Social Anxiety*, *General Trust* and the single-item *Social Trust* question were included as continuous predictors. The Disgust scale (range: 0–6) showed acceptable internal consistency reliability, Cronbach's $\alpha = .764$, $M = 4.04$, $SD = 1.18$; the Social Anxiety scales (range: 0–3) showed excellent internal consistency, Cronbach's $\alpha = .956$, $M = 1.05$, $SD = 0.54$; and the General Trust scale (range: 1–5) showed good internal consistency, Cronbach's $\alpha = .864$, $M = 3.56$, $SD = 0.73$. All continuous predictors were centered on their grand mean. *Participant* and *stimulus* (face identity) were included as random effects. Finally, in each model, we performed a study of influential cases based on Cook's distance (Cook's *D*). This measure evaluates each participant's influence on the results by examining the impact of its removal from the data set (Corradi et al., 2018).

Social distance

Influential cases analysis revealed 34 cases whose Cook's *D* value exceeded the recommended cut-off point, which was 0.0038. Thus, these participants were excluded from the analysis. Results showed that participants significantly perceived targets with a mask ($M = 3.8$, 95% CI [3.6, 3.94]) as

more socially desirable than targets without a mask ($M = 4.4$, 95% CI [4.2, 4.55]), $\beta = 0.6$, $SE = 0.08$, $t(1017) = 6.96$, $p < 0.001$, 95% CI [0.44, 0.78]. Furthermore, participants with higher scores in disgust sensitivity showed more social distancing to targets with and without a mask, $\beta = 0.015$, $SE = 0.005$, $t(1017) = 2.75$, $p = 0.006$, 95% CI [0.004, 0.026]. There was no significant sex difference, $\beta = -0.09$, $SE = 0.1$, $t(1017) = -0.93$, $p = 0.35$, 95% CI [-0.28, 0.12]. All other effects and interactions were also nonsignificant.

Trustworthiness

Influential cases analysis revealed 54 cases whose Cook's D value exceeded the recommended cut-off point, which was 0.00382. Results showed that participants perceived targets with a mask ($M = 4.05$, 95% CI [3.9, 4.2]) as more trustworthy than targets without a mask ($M = 3.90$, 95% CI [3.7, 4.1]), $\beta = 0.16$, $SE = 0.05$, $t(994) = 2.85$, $p = 0.004$, 95% CI [0.05, 0.27]. All continuous predictors showed a significant influence on trustworthiness ratings. On the one hand, participants with higher scores in disgust sensitivity were less likely to trust the target faces, $\beta = -0.01$, $SE = 0.003$, $t(994) = -2.84$, $p = 0.004$, 95% CI [-0.016, -0.003]. Those with higher scores in social anxiety were also less likely to trust the target faces, $\beta = -0.004$, $SE = 0.001$, $t(994) = -3.8$, $p < 0.001$, 95% CI [-0.006, -0.002]. On the other hand, participants with higher scores in generalized social trust (the single-item scale) were more likely to trust the targets, $\beta = 0.08$, $SE = 0.015$, $t(994) = 5.3$, $p < 0.001$, 95% CI [0.05, 0.11]. Similarly, those with higher scores in the 6-item general trust scale were also more likely to trust the target faces, $\beta = 0.03$, $SE = 0.009$, $t(994) = 3.14$, $p = 0.001$, 95% CI [0.011, 0.046]. Again, there was no significant difference between women and men, $\beta = 0.01$, $SE = 0.06$, $t(987) = 0.15$, $p = .88$, 95% CI [-0.12, 0.14]. All other effects and interactions were also nonsignificant.

Perception of sickness

Influential cases analysis revealed 48 cases whose Cook's D value exceeded the recommended cut-off point, which was 0.00381. Therefore, as in the previous models these participants were removed from the analysis. Participants perceived targets with a mask as more likely to be ill ($M = 0.30$, 95% CI

[0.12, 0.49]) than targets without a mask ($M = 0.21$, 95% CI [0.03, 0.4]), $\beta = 0.58$, $SE = 0.09$, $Z = 6.2$, $p < 0.001$, 95% CI [0.40, 0.78]. Overall, participants with higher scores in social anxiety were significantly more likely to perceive the target as being ill, $\beta = 0.007$, $SE = 0.002$, $Z = 4.1$, $p < 0.001$, 95% CI [0.004, 0.011]. There was no significant difference between women and men, $\beta = -0.01$, $SE = 0.11$, $Z = -0.93$, $p = 0.35$, 95% CI [-0.32, 0.11]. All other effects and interactions were also nonsignificant.

[Insert Figure 2 here.]

Figure 2. Mean comparisons from the three explicit measures related to the target faces. From left to right, Social distance, Trustworthiness and Perception of sickness. Error bars represent 95% CI ($p < 0.01$; *** $p < 0.001$).**

Discussion

We found mixed support for H1 (influence of disgust sensitivity and social anxiety) and H2 (influence of generalized social trust) on social desirability and predictions of illness of target faces. With regard to H1, we found that participants with high sensitivity to pathogen disgust judged target faces as less trustworthy and less socially desirable. Meanwhile, higher scores on social anxiety predicted higher perceptions of illness and lower judgments of trustworthiness. With regard to H2, generalized social trust predicted higher judgments of trustworthiness and lower perceptions of illness of the target faces. Additionally, our results revealed significant differences between experimental conditions: target faces wearing a surgical mask were perceived as more likely to be ill, more trustworthy and more socially desirable (in terms of most appropriate social distance) than unmasked faces.

Our results are in line with previous studies showing that social anxiety and pathogen disgust sensitivity activate behavioral tendencies of avoidance (Aarøe et al., 2016; American Psychiatric Association, 2013; Park, 2015). The finding that pathogen disgust predicts judgments of untrustworthiness and social distancing is consistent with the theory that our behavioral immune

system discourages contact with agents associated with pathogens (including other people; Oaten, Stevenson, & Case, 2009). Specifically, our findings recall research by Fan and Olatunji (2013) showing that disgust sensitivity predicts behavioral avoidance towards objects associated with the common cold or influenza. Likewise, our results are consistent with previous studies on negative bias in social anxiety disorder, suggesting that people with severe social anxiety exhibit less tolerance for approaching ambiguous targets (such as ambiguously ill neutral faces; Kuckertz et al., 2017). However, while this would explain why social anxiety predicts negative judgments of target faces in the dimensions of trustworthiness and illness, it is unclear why social anxiety did not predict social distancing.

The association between generalized social trust and judgments of trustworthiness and “healthiness” of an unfamiliar target is also consistent with the reviewed literature, suggesting that individuals with high social trust have a positive bias towards most people which in turn promotes social contact (Delhey & Newton, 2005). Thus, the fact that social anxiety and social trust did not predict social distancing (in opposite directions) is somewhat surprising. One possibility is that the social distance scale is a more indirect measure than the ones used to assess trustworthiness and predictions of illness. Another is that the ordinal scale of responses may not have accurately reflected participants’ internal rankings of social distance. Clearly, additional research with alternative measures of desired social distance is needed.

In terms of the contrast between conditions, faces wearing a surgical mask were more likely to be perceived as ill. Yet mask-wearing also increased impressions of trustworthiness and social desirability. One point to emphasize here is that the comparison was between groups, and therefore demand bias is unlikely to have been a big factor behind these differences, which perhaps explains why they show this apparent inconsistency. Possibly judgments of illness function in a more associative manner (*surgical mask => COVID-19*) than judgments of social desirability and trustworthiness, which may function in a more propositional manner (*people wearing a surgical mask are more responsible*

because they take the new social norms more seriously). As previously mentioned, theory on the behavioral immune system suggests that this system is hypersensitive to any perceptual cue of disease (Schaller & Park, 2011) and that disgust functions in an associative manner, reacting to all stimuli that could be linked to infection (even if they are not actually infectious; Giner-Sorolla, et al., 2018).

While this would explain participants' tendency to judge people wearing flu masks as more likely to be ill, previous research on person perception suggests that judgments of trustworthiness and social desirability are also largely automatic. For instance, people can judge the trustworthiness of unfamiliar faces after as little as 33–100 milliseconds (Todorov et al., 2009). Nevertheless, given that our study was conducted in the middle of the COVID-19 global crisis, one possible explanation for these findings is that the internalized social norm of wearing a mask is suppressing any automatic mistrust due to not seeing the whole face. Accordingly, it might be that people *explicitly* say that mask-wearers are more trustworthy and socially desirable, but *implicitly* still mistrust them and feel an impulse to avoid them (in line with their judgments of perceived illness). Future research could test this prediction, for example by comparing implicit and explicit judgments of mask-wearers, or by extending the sample to populations where mask-wearing is less normative.

In conclusion, our findings shed light on the role of individual differences in social judgments of mask-wearers (and non-mask-wearers) in the context of Spanish-speaking countries experiencing the COVID-19 global pandemic. Although exploratory in nature, this study may help to rethink some quarantine policies from the standpoint of social perception and individual differences. In particular, it suggests that policymakers need not worry too much about negative attitudes towards people wearing surgical masks (at least in the populations from which our sample was drawn), since while such masks were associated with sickness, they were also viewed as more trustworthy and less deserving of social avoidance, perhaps because they were viewed as complying with current social norms. A clear limitation is that our results may not generalize beyond the moment in time and cultural context in which they were found. For instance, cross-cultural research suggests that Colombia, Perú and Spain

(the countries from which 98.6 % of our sample were drawn) are very high in “uncertainty avoidance”, which may influenced these results (Hofstede Insights 2020). Future studies should attempt to replicate them in other contexts, for example with participants from other parts of the world, or after the pandemic has passed.

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Appendix 1

Pathogen disgust subscale of the Three-Domain Disgust Scale (Tybur et al., 2009)

The following situations describe a variety of concepts. Please rate how unpleasant you find the concepts described in the situations, where 0 means that you do not find the concept unpleasant at all and 6 means that you find the concept extremely unpleasant.

Standing near a person who has body odor
 Shaking hands with a stranger who has sweaty palms
 Stepping on dog poop
 Accidentally touching a person's bloody cut
 Seeing some mold on old leftovers in your refrigerator
 Sitting next to someone who has red sores on the arm
 Seeing a cockroach run across the floor

Spanish version:

Pararse cerca de una persona que tiene olor corporal
 Darle la mano a un extraño que tiene las palmas sudorosas
 Pisar caca de perro
 Tocar accidentalmente el corte sangriento de una persona
 Ver un poco de moho en las sobras viejas en su refrigerador
 Sentarse al lado de alguien que tiene llagas rojas en el brazo
 Ver una cucaracha correr por el piso

6-item general trust scale (Yamagishi & Yamagishi, 1994)

Using the following scale, indicate how much you agree or disagree with the following statements:

People in my neighborhood are basically honest
 People in my neighborhood are trustworthy
 People in my neighborhood are basically nice and friendly
 People in my neighborhood trust in other people
 I am trustworthy
 People in my neighborhood respond in a friendly way when other people trust them

Spanish version:

Las personas en mi vecindario son básicamente honestas
 Las personas en mi vecindario son confiables
 Las personas en mi vecindario son básicamente buenas y amables
 Las personas en mi vecindario confían en los demás
 Soy confiable
 Las personas en mi vecindario responden de forma amable cuando otros confían en ellos

Standard international single item (Rosenberg, 1956).

Please indicate your answer to the following question. 0 means you can't trust and 10 means you can trust the people in your neighborhood.

Generally speaking, would you say that you can trust people in your neighborhood, or that you can't trust people when you deal with them in your neighborhood?

Generalmente hablando, ¿diría que se puede confiar en las personas de su vecindario o que no se puede confiar al tratar con las personas de su vecindario?

Liebowitz social anxiety scale (Heimburg & Becker, 2002; Liebowitz, 1987).

Situation

1. Using a telephone in public
2. Participating in a small group activity
3. Eating in public
4. Drinking with others
5. Talking to someone in authority
6. Acting, performing, or speaking in front of an audience
7. Going to a party
8. Working while being observed
9. Writing while being observed
10. Calling someone you don't know very well
11. Talking face to face with someone you don't know very well
12. Meeting strangers
13. Urinating in a public bathroom
14. Entering a room when others are already seated
15. Being the center of attention
16. Speaking up at a meeting
17. Taking a test of your ability, skill, or knowledge
18. Expressing disagreement or disapproval to someone you don't know very well
19. Looking someone who you don't know very well straight in the eyes
20. Giving a prepared oral talk to a group
21. Trying to make someone's acquaintance for the purpose of a romantic/sexual relationship
22. Returning goods to a store for a refund
23. Giving a party
24. Resisting a high pressure sales person

Spanish version.

- Hablar por teléfono en público
- Participar en una actividad con un grupo pequeño
- Comer en público
- Beber con otras personas
- Hablar con alguien con autoridad
- Actuar, presentar o hablar frente a una audiencia
- Ir a una fiesta
- Trabajar mientras le observan
- Escribir mientras le observan
- Llamar a alguien que no conoce muy bien
- Hablar cara a cara con alguien que no conoce muy bien
- Conocer extraños

- Orinar en un baño público
- Entrar a una habitación cuando otros ya están sentados
- Ser el centro de atención
- Hablar en una reunión
- Hacer una prueba de capacidad, habilidad o conocimiento
- Expresar desacuerdo o desaprobación a alguien que no conoce muy bien
- Mirar directamente a los ojos a alguien que no conoce muy bien
- Dar una charla oral preparada a un grupo
- Tratar de conocer a alguien con el propósito de una relación romántica / sexual
- Devolver productos a una tienda para un reembolso
- Dar una fiesta
- Resistir la presión alta de un vendedor

Appendix 2: Social distance scale (Bogardus 1933; adapted by Szczurek et al., 2012)

Please complete the following statement, indicating the “closest” level of interaction with which you would feel comfortable: “I’d feel comfortable if this person were...”

- 1 = A close friend / romantic partner
- 2 = My roommate / housemate
- 3 = Someone who lives in my apartment building / the house next door
- 4 = A classmate / work colleague
- 5 = Someone who studies in my university / works for the same company
- 6 = Someone who lives in my neighborhood
- 7 = Someone who lives in my city

Spanish version:

- 1= Un amigo cercano/pareja romántica
- 2= Mi compañero de apartamento/casa
- 3= Alguien que vive en mi edificio/unidad
- 4= Un compañero de clase
- 5= Alguien que estudia en mi universidad
- 6= Alguien que vive en mi barrio
- 7= Alguien que vive en mi ciudad

CRediT author statement

Antonio Olivera-La Rosa: Conceptualization, Methodology, Investigation, Writing-Original Draft, Writing-Review & Editing, Supervision. **Erick G. Chuquichambi:** Methodology, Investigation, Formal analysis, Data Curation, Writing-Original Draft. **Gordon P.D. Ingram:** Conceptualization, Methodology, Investigation, Writing-Review & Editing, Data Curation.



Figure 1

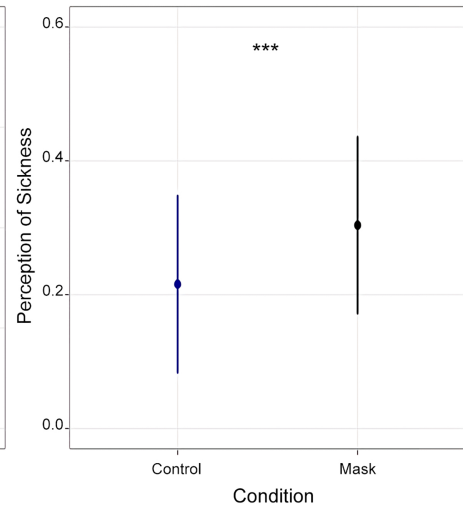
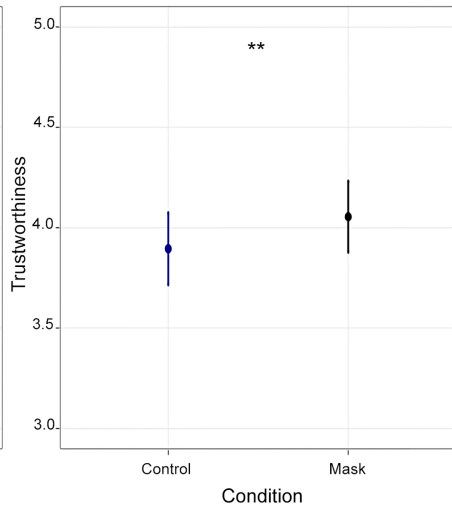
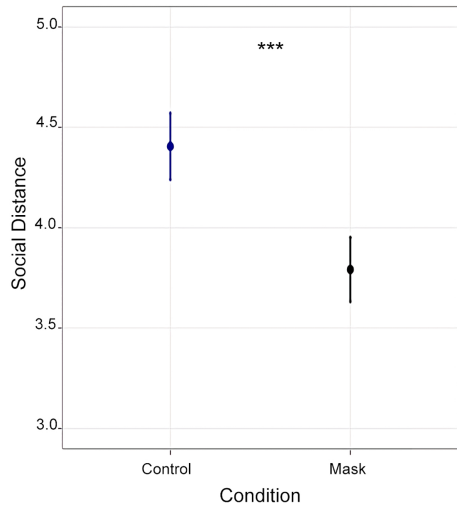


Figure 2